Wauwatosa, WI

Transportation Affairs Committee

Meeting Agenda - Final

7725 W. North Avenue
Wauwatosa, WI 53213

Tuesday, June 3, 2025 **6:30 PM** **Committee Room #1 and Zoom: https://servetosa.zoom.us/j/81144274572, Meeting ID: 811 4427 4572**

Regular Meeting

HYBRID MEETING INFORMATION

Members of the public may observe and participate in the meeting in-person or via Zoom at the link above. To access the Zoom meeting via phone, call 1-312-626-6799 and enter the Meeting ID.

CALL TO ORDER

ROLL CALL

TRANSPORTATION AFFAIRS COMMITTEE ITEMS

1. Consideration of request from Engineering Division to adopt proposed new Neighborhood Traffic Calming Program Guidelines — **25-0820**
2. Discussion relative to Department of Public Works - Engineering Division reckless driving mitigation activities — **25-0915**

ADJOURNMENT

NOTICE TO PERSONS WITH A DISABILITY
Persons with a disability who need assistance to participate in this meeting should call the City Clerk's office at (414) 479-8917 or send an email to tclerk@wauwatosa.net, with as much advance notice as possible.

File #: 25-0820 **Agenda Date:** 6/3/2025 **Agenda #:** 1.

Consideration of request from Engineering Division to adopt proposed new Neighborhood Traffic Calming Program Guidelines

Submitted by:
Michael May, PE, PTOE, RSP1
Department:
DPW - Engineering Division

A. Issue

The existing Neighborhood Traffic Management Program involves a lengthy and time-consuming process and has resulted in zero resident-funded traffic calming installations.

B. Background/Options

The Engineering Division presented to the Transportation Affairs Committee a basic framework to streamline the traffic calming program. This presentation occurred on March 11th.

As a reminder, the City has had a neighborhood traffic management program in place since March 2016, with updates in November 2016 and December 2020. The existing program involves a lengthy and time-consuming process. With just over 180 applications since the program's inception, the program has resulted in the construction of one pilot project on Kavanaugh Place and minor sign and speed limit changes. The pilot project and minor sign and speed limit changes were fully paid for and constructed by the City of Wauwatosa. The program has resulted in zero resident-funded traffic calming installations as the existing program envisioned. Based on research of other communities around Wisconsin and North America, it is surmised that the lack of resident-funded installations is due, in large part, to the requirement for residents to pay the full costs of installations through property assessments.

Attached please find a copy of the proposed new Neighborhood Traffic Calming Program Guidelines and the existing Neighborhood Traffic Management Program Guidelines. The following is a high-level description of the steps involved with the proposed new guidelines.

- Anyone can submit a traffic calming application. The application will need to provide their contact information with the completed application.

- The Engineering Division will review traffic calming applications and determine if the request meets the minimum qualifications for participation in the program (see Section IV, Part A of proposed guidelines). Engineering will contact applicants to inform them if their request meets minimum qualifications and, if not, will summarize why it does not.

- If an application qualifies for the neighborhood traffic calming program, Engineering will collect traffic volume, speed, and/or crash data. The data will be compared against program thresholds (see Section IV, Part B of proposed guidelines). If no volume, speed, or crash data thresholds are met, the application will be dropped from consideration for traffic calming and the applicant will be notified.

- Applications meeting minimum thresholds will be ranked based on various factors (see Section IV, Part C). These factors include measured traffic speeds, traffic volumes, and crash experience. Additional factors considered in the ranking include, but are not limited to, official Safe Routes to School, official greenway routes, pedestrian accommodations, and proximity to schools or parks.

- Preliminary concepts will be prepared at least once a year for the top-ranking applications (see Section V, Part B). The concepts will be prepared to understand the feasibility and approximate cost of construction, or to determine if additional study is required.

- The Engineering Division will program projects for construction in the current and/or subsequent years dependent on the traffic calming solution, available funding, and level of interagency and public interaction deemed necessary (see Section V, Part B).

A project priority list will be shared with the Transportation Affairs Committee each year, ideally at its May meeting. Additionally, notification will be given to abutting property owners of upcoming projects. Updates may be provided on the City's construction updates webpage.

The primary funding source for the program is an allocation from the City's vehicle registration fee. As such, the merits of a traffic calming application are not measured by an applicant's or a neighborhood's ability to pay. Rather, the merits of an application are based solely on the safety-related evidence gathered through the neighborhood traffic calming program guidelines.

C. Strategic Plan (Area of Focus)

Priority 2: Public Safety, Goal 2. Proactively address pedestrian, bicycle, and vehicular safety.

D. Fiscal Impact

No additional financial impact. The primary funding source for the program is an allocation from the City's vehicle registration fee. The number of traffic calming measures implemented in the program is dependent on the program's allocation.

E. Recommendation

Adoption of the proposed Neighborhood Traffic Management Program Guidelines.

City of Wauwatosa
Neighborhood Traffic Calming Program

DRAFT
May 23, 2025

Department of Public Works

Engineering Division

7725 West North Avenue

Wauwatosa, Wisconsin 53213

(414) 479-8927

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Table of Contents

Section I. Introduction

A. What is the Problem We Are Trying to Solve?

All people are entitled to safe travel, and death and serious injury are unacceptable. Excessive vehicle speeds can create unsafe conditions for all street occupants, including pedestrians, bicyclists, and other vulnerable road users. High vehicle speeds can lead to collisions, noise pollution, and an overall decreased sense of safety and livability.

B. Why Traffic Calming?

A 2024 community survey was performed by the ETC Institute for the City of Wauwatosa. Respondents identified reckless driving/traffic enforcement as a top public safety priority. When asked what would encourage them to not use their car for trips of one mile or less, respondents to the survey identified traffic calming to slow speeds and/or shorten crossing distances as their top solution. These responses show that users of Wauwatosa streets want safer traveling environments.

The layout of streets and intersections directly influences the behavior of drivers as well as vulnerable road users like pedestrians, bicyclists, and others. The safety of all users can be increased by designing streets and intersections that encourage safer speeds, minimize the opportunity for human mistakes, and encourage safe travel behaviors. Designs that intentionally slow traffic are called traffic calming.

C. Why Not Just Enforce Traffic Laws?

Traffic laws are enforced in Wauwatosa. However, it is impractical to have an officer present at every intersection and on every street to run traffic enforcement at all times. Streets and intersections are present at all times – 24/7/365 – to influence behavior and impact the safety of all users.

D. Tell Me More!

Turn to the next page for an at-a-glance understanding of Wauwatosa's neighborhood traffic calming process, qualifications to participate, and how to make a request!

The U.S. Department of Transportation Safe System Approach

(https://www.transportation.gov/safe-system-approach)

Section II. Program At-A-Glance

Step 1: Understand the Program

The neighborhood traffic calming program is intended for residential local and collector streets and intersections (see map in Appendix A). Dead-end streets or streets less than 500' in length are not eligible. Anyone may submit a traffic calming application. The applicant will need to provide their contact information with the completed application and agree to serve as the point of contact.

Step 2: Applicant Completes Traffic Calming Request

Complete a traffic calming request by using the QR code to the right, which leads to https://www.wauwatosa.net/government/departments/public-works/engineering/traffic-parking/traffic-calming-application. Need assistance or have questions? Contact the Engineering Division at (414) 479-8927 or via email at tengineering@wauwatosa.net.

Step 3: Engineering Verifies if Application Qualifies

The Engineering Division will review traffic calming applications and determine if the request meets the minimum qualifications for participation in the program. Engineering will contact applicants to inform them if their request meets minimum qualifications and, if not, will summarize why it does not.

Step 4: Engineering Collects Data

If an application qualifies for the neighborhood traffic calming program under Step 3, Engineering will collect traffic volume, speed, and/or crash data. The data will be compared against program thresholds as outlined in Section IV of these guidelines. If no volume, speed, or crash data thresholds are met, the application will be dropped from consideration for traffic calming and the applicant will be notified.

Step 5: Engineering Ranks Qualifying Applications

Applications meeting minimum thresholds in Step 4 will be ranked based on various factors as outlined in Section IV. These factors include measured traffic speeds, traffic volumes, and crash experience. Additional factors considered in the ranking include, but are not limited to, official Safe Routes to School (SRTS), official greenway routes, pedestrian accommodations, and proximity to schools or parks.

Step 6: Engineering Prepares Preliminary Concepts

Preliminary concepts will be prepared at least once a year for the top-ranking applications from Step 5. The concepts will be prepared to understand the feasibility and approximate cost of construction, or to determine if additional study is required.

Step 7: Engineering Implements Projects

The Engineering Division will program projects for construction in the current and/or subsequent years dependent on the traffic calming solution, available funding, and level of interagency and public interaction deemed necessary.

Important Note

The City reserves its right to advance, remove, or otherwise hold a project from consideration in the neighborhood traffic calming program. For example, Engineering may advance a traffic calming project if there is a nearby construction project and a cost savings may be realized, remove a project if a solution exists outside of the traffic calming program, and may hold a project if interagency (border street) or additional design coordination is required.

Section III. Potential Traffic Calming Solutions

A. What Is Traffic Calming?

The layout of streets and intersections directly influences the behavior of drivers as well as vulnerable road users like pedestrians, bicyclists, and others. The safety of all users can be increased by designing streets and intersections that encourage safer speeds, minimize the opportunity for human mistakes, and encourage safe travel behaviors. Designs that intentionally slow traffic are called traffic calming.

B. Example Traffic Calming Solutions

The following is an example list of common traffic calming measures that the Engineering Division may consider under the neighborhood traffic calming program. This is not an exhaustive list. The Engineering Division may consider alternative solutions to best fit the context of a qualifying location, including the use of the street as a frequent emergency services route. Credit to the City of Milwaukee for their permission in sharing traffic calming descriptions and photos.

Speed Hump

Unlike speed bumps, which are jarring and require motorists to travel at speeds 5 mph or less, speed humps are rounded, raised areas constructed across a street. Speed humps slow drivers to 10 to 15 mph over the hump.

When might speed humps be considered?

- When average daily traffic volumes are 3,000 vehicles per day or less
- When speeding occurs in the middle of a block
- When there are midblock locations without closely spaced stop controls (stop signs or traffic signal) at either end of the block

Speed humps will not be used on primary emergency vehicle response routes.

Speed Table

Speed tables are similar to speed humps but typically have a flat top. They slow traveling speeds to 20 to 25 mph. They more readily accommodate emergency service vehicles when compared to speed humps.

When might speed tables be considered?

- When average daily traffic volumes are 3,000 to 12,500 vehicles per day
- When the posted speed limit is 25 to 35 mph
- Midblock locations or crosswalks

Speed tables will not be used on primary emergency vehicle response routes without the expressed support of the Wauwatosa Fire Department.

Traffic Circle

A traffic circle is a raised, circular island in the middle of an intersection. Traffic circles slow driving speeds at intersections and are an ideal treatment for intersections without all-way stop signs or traffic signals. Note that traffic circles are not roundabouts, which are much larger and located on major streets.

When might traffic circles be considered?

- When speeding occurs through intersections
- When average daily traffic volumes are low, preferably 3,000 vehicles per day or less

Curb Extension/Neck-Down

Curb extensions, also called bump-outs, extend the curb into the street at intersections. They encourage slower speeds, reduce illegal right-hand passing, and minimize crossing distances for users crossing the street. They also open lines-of-sight at intersections so that users can better see each other.

Similar to a curb extension is the neck-down. A neck-down behaves much like at a curb extension, but at a midblock location. The width of traveled way in the choker may or may not be designed in a manner that requires motorists to take turns to pass through.

When might curb extensions or chokers be considered?

- When speeding occurs on a wide street
- When high-speed turns occur at an intersection
- When people have difficulty crossing a street.
- Where sight lines are otherwise poor.

Chicane

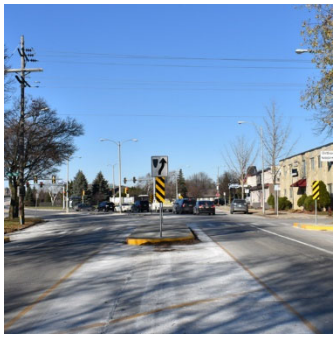
Chicanes use a mix of curb extensions and/or center islands in a manner that laterally shifts the driving lanes. The shifting driving lanes force motorists to slow their speed to successfully navigate the street. Chicanes may require removal of parking to achieve the desired speed reduction.

When might chicanes be considered?

- When speeding occurs on a wide street
- When located near the entrance to a neighborhood from a higher-speed street to “set the tone” for drivers that they are no longer on a higher-speed street

Refuge Island/Median

A refuge island/median, is an area placed between opposing traffic lanes at a midblock location or on an intersection approach. The refuge island/median provides space for people so that they may cross one direction of travel, wait half-way across, and then cross the second direction of travel.



When might refuge islands/median be considered?

- When people have difficulty crossing a street
- When high speeds occur on higher volume streets
- When high-speed turns occur at an intersection
- When additional sign placement in the center of the street may aid in reducing angle crashes or crashes with vulnerable road users.
- When located near the entrance to a neighborhood from a higher-speed street to "set the tone" for drivers that they are no longer on a higher-speed street

C. Inappropriate Traffic Calming Solutions

A common request by residents to reduce speeding and cut-through traffic in residential neighborhoods is the installation of STOP or CHILDREN AT PLAY signs on neighborhood streets.

Stop Signs

The USDOT Manual on Uniform Traffic Control Devices (MUTCD) states that stop signs shall not be used as a speed control device and should only be installed where an engineering study shows it is warranted. A stop sign is a valuable and effective traffic control device when used under appropriate conditions.

- Crashes can increase at intersections where stop signs are installed but are not warranted.
- Speeds can increase between stop signs by 3 to 5 mph, particularly when used inappropriately.
- Compliance at unwarranted stop sign locations is poor, resulting in a false sense of security to street users. This false sense of security can lead to crashes.
- The proliferation of stop signs at unwarranted locations creates a lack of respect for warranted locations.

A request for stop sign control through the neighborhood traffic calming program will be disqualified. Applicants will be directed to submit a separate request for stop sign control.

Children at Play Signs

Signs are used to guide and direct street users. Unnecessary signs can confuse, distract, and irritate users. CHILDREN AT PLAY signs have no effect on behavior and their use is discouraged by the MUTCD. The sign is unclear and unnecessary. Additionally:

- When no children are seen, users might assume on future trips that the sign is meaningless.
- It gives children and parents/guardians a false sense of security.
- It may give the impression to children that playing in the street is okay.

It should always be assumed in an urban environment like Wauwatosa that children are at play. CHILDREN AT PLAY signs, and similar ineffective warning signs, will not be installed.

Section IV. Qualifying Projects, Data Collection, & Priority Ranking Process

A. Qualifying Projects

Anyone may complete a traffic calming request by using the QR code to the right, which leads to https://www.wauwatosa.net/government/departments/public-works/engineering/traffic-parking/traffic-calming-application. Need assistance or have questions? Contact the Engineering Division at (414) 479-8927 or via email at tengineering@wauwatosa.net.

After a traffic calming application is submitted, the Engineering Division will review it and determine if the application meets the minimum qualifications for participation in the program. The following are minimum qualifications for participation in the traffic calming program.

- Residential local or collector street or intersection. See Appendix A for a diagram of local and collector streets.
- Street segment is greater than or equal to 500' in length and not on a dead-end.
- Applicant provides contact information with traffic calming application and agrees to serve as the point of contact.

In addition to the above, applications may be disqualified by the Engineering Division on a case-by-case basis using engineering judgement. For example, existing curves on a street may already serve to slow speeds, and steep grades may be incompatible with traffic calming devices.

The Engineering Division may also disqualify a neighborhood traffic calming application for other practical reasons. For example, Engineering may remove a project if a solution exists outside of the traffic calming program, or it may address the concern within the application by use of another project or program.

Engineering will contact applicants to inform them if their request meets minimum qualifications and, if not, will summarize why it does not.

B. Data Collection

If an application qualifies for the neighborhood traffic calming program as outlined above, the Engineering Division will collect traffic volume, speed, and/or crash data. This data will be compared against program thresholds as outlined below. At least one threshold must be met for further program consideration.

- 85th Percentile Speed Threshold
  - The 85th percentile speed is the speed at which 85% of all motorists travel at or below.
  - If the measured 85th percentile speed is 6 mph or greater than the posted or statutory speed limit, the 85th percentile speed threshold is met.

- Excessive Speed Threshold
  - Excessive speeds are those that are 10 mph or more than the posted or statutory or speed limit.

  - If 10% or more of the measured motorists travel at 10 mph or greater than the posted or statutory speed limit, the excessive speed threshold is met.

- Crash Experience Threshold
  - At least one crash has occurred in the previous three consecutive years (January through December) that are susceptible to correction by a traffic calming measure.

If the posted or statutory speed limit is less than 25 mph, a 25-mph baseline speed limit may be used when evaluating data against the speed thresholds outlined. This baseline speed limit recognizes that priority should be given to reducing higher speeds on any road, and it avoids bias when ranking one project against another. For example, a motorist traveling at 31mph on a 25mph posted street carries 42% more energy into a crash than a motorist traveling at 26 mph on a 20-mph posted street.

If no volume, speed, or crash data thresholds are met, the application will be dropped from consideration for the neighborhood traffic calming program for at least one year. The applicant will be informed if thresholds are not met. After one year, another application may be made for reconsideration in the program.

C. Priority Ranking Process

All applications meeting minimum data thresholds will be ranked based on a number of factors. The following is an outline of the factors and points considered in the priority ranking process.

- *85th Percentile Speed* – 3 points for every 1 mph over "posted speed limit + 5 mph"

- *Excessive Speeding* – 3 points for every 1% equal to or over 10% excessive speeding

- *Crashes*
  - 25 points for each fatality crash ("K-type"), serious injury crash ("A-type"), and pedestrian/bicycle/scooter crash (regardless of severity)
  - 5 points for each minor injury ("B-type") and possible injury ("C-type") motor vehicle crash.
  - 2 points for each property damage-only ("O-type") motor vehicle crash.

- *Estimated Daily Traffic Volume* – 1 point for every 100 vehicles per day (rounded to nearest 100)

- *Officially-Recognized Safe Routes to School (SRTS) Route* – 5 points if on an SRTS

- *Continuous Pedestrian Accommodation* – 5 points if no continuous pedestrian accommodation (e.g., a sidewalk or path).

- *Officially-Recognized Greenway Route* – 5 points if on a greenway route

- *Within 500 feet of School and/or Active Park* – 5 points, as measured along streets for project terminus to nearest school or park property line

- *Time on Priority Ranking List* – 5 points for any application on the priority ranking list for more than two previous calendar years.

- *Engineering Discretion* – Engineering may award up to 10 points to an application at its discretion. An example of why such discretion may be used includes realizing a cost savings if the given application is combined with another nearby traffic calming project, sidewalk repair project, pavement repair project, etc.

The following are example rankings of hypothetical situations to aid the reader in understanding this process.

EXAMPLE 1

Street A is a residential local street at least 500-feet long with a posted speed limit of 25mph. The measured 85th percentile speed is 32 mph and 3% of measured speeds are excessive. A bicyclist was struck on the street with no injuries. The street carries 670 vehicles per day, is not on an SRTS route, and has no crossing guard. The street has continuous sidewalks, is an officially-recognized greenway, and is within 500-feet of a school and within 500-feet of a park. The street has been on the priority ranking for one year.

In this case, the street would be awarded the following points:

- *85th Percentile Speed* – 6 points (32 mph minus 30 mph)
- *Excessive Speeding* – 0 points (3% < 10% threshold)
- *Crashes: 25 points (bicycle crash)*
- *Estimated Daily Traffic Volume* – 7 points (670 rounded to nearest 100)
- *Officially-Recognized Safe Routes to School (SRTS) Route* – 0 points (not on an SRTS)
- *Continuous Pedestrian Accommodation* – 0 points (continuous sidewalks exist)
- *Officially-Recognized Greenway Route* – 5 points (on a greenway route)
- *Within 500-feet of School and/or Park* – 5 points (is within 500-feet of school or park).
- *Time on Priority Ranking List* – 0 points (on list for one year)

TOTAL POINTS: 48

EXAMPLE 2

Street B is a residential collector street at least 500-feet long with a posted speed limit of 25mph. The measured 85th percentile speed is 33 mph and 11.2% of measured speeds are excessive. A minor injury crash and one property damage-only crash occurred. The street carries 1,130 vehicles per day and is on an SRTS route. The street has continuous sidewalk on one side of the street, is an officially-recognized greenway, and is not within 500-feet of a school or a park. The street is now on the priority ranking list for its third year. Another traffic calming project is occurring nearby.

In this case, the street would be awarded the following points:

- *85th Percentile Speed* – 9 points (33 mph minus 30 mph)
- *Excessive Speeding* – 6 points (11.2% < 10% threshold)
- *Crashes: 7 points (5 points for minor injury, 2 points for property damage-only crash)*
- *Estimated Daily Traffic Volume* – 11 points (1,130 rounded to nearest 100)
- *Officially-Recognized Safe Routes to School (SRTS) Route* – 5 points (not on an SRTS)
- *Continuous Pedestrian Accommodation* – 0 points (a continuous sidewalk exists)

- *Officially-Recognized Greenway Route* – 5 points (on a greenway route)
- *Within 500 feet of School and/or Park* – 0 points (is not within 500-feet of school or park).
- *Time on Priority Ranking List* – 5 points (on list for its third year)

TOTAL POINTS: 48

Comparing Street A from Example 1 and Street B from Example 2, they have the same total points for priority ranking. Because Street B from Example 2 has a nearby traffic calming project and a cost savings may be realized, the Engineering Division may award up to 10 additional points to Street B.

Section V. Program Administration

A. First-In/First-Out Considerations

The neighborhood traffic calming program is administered by the Engineering Division. Applications will be reviewed, and data collection will occur, on a first-in/first-out basis.

B. Project Development & Priority

After February 1st of each year, Engineering will tabulate the rankings for all qualifying applications with data collected within the previous three calendar years (January through December). Qualifying applications within the current year that have completed the data collection step may be added to the rankings. If an application is older than the previous three years, it will become ineligible for the traffic calming program and removed from the rankings. Another application may be made for reconsideration in the program if a previous application is removed from the rankings.

On or around May 1st of each year, Engineering will prepare rough concepts and cost estimates for top ranking applications based on the current and anticipated funding allocation to the neighborhood traffic calming program. The applications will become projects split into two categories:

- *Quick-build projects*. These projects often require little design effort and can be completed within the current year of the program.
- *Long-term projects*. These projects often require additional data collection, coordination with additional jurisdictions (e.g., border streets), and/or involve more complex design/bid processes that can be completed in the following years.

C. Public Notification

A project priority list will be shared with the Transportation Affairs Committee each year, ideally at its May meeting. Additionally, notification will be given to abutting property owners of upcoming projects. Updates may be provided on the City's construction updates webpage.

D. Funding

The merits of a traffic calming application are not measured by an applicant's or a neighborhood's ability to pay. Rather, the merits of an application are based solely on the safety-related evidence gathered through the neighborhood traffic calming program guidelines.

The neighborhood traffic calming program is a 100% City-funded effort. The primary funding source for the program is an allocation from the City's vehicle registration fee. The number of traffic calming measures implemented in the program is dependent on the program's allocation.

E. Appeals

Any applicant wishing to appeal a decision of the Engineering Division can do so through the Director of Public Works at dpw@wauwatosa.net. Any applicant wishing to appeal a decision of the Director of Public Works can do so through Board of Public Works by calling (414) 479-8900.

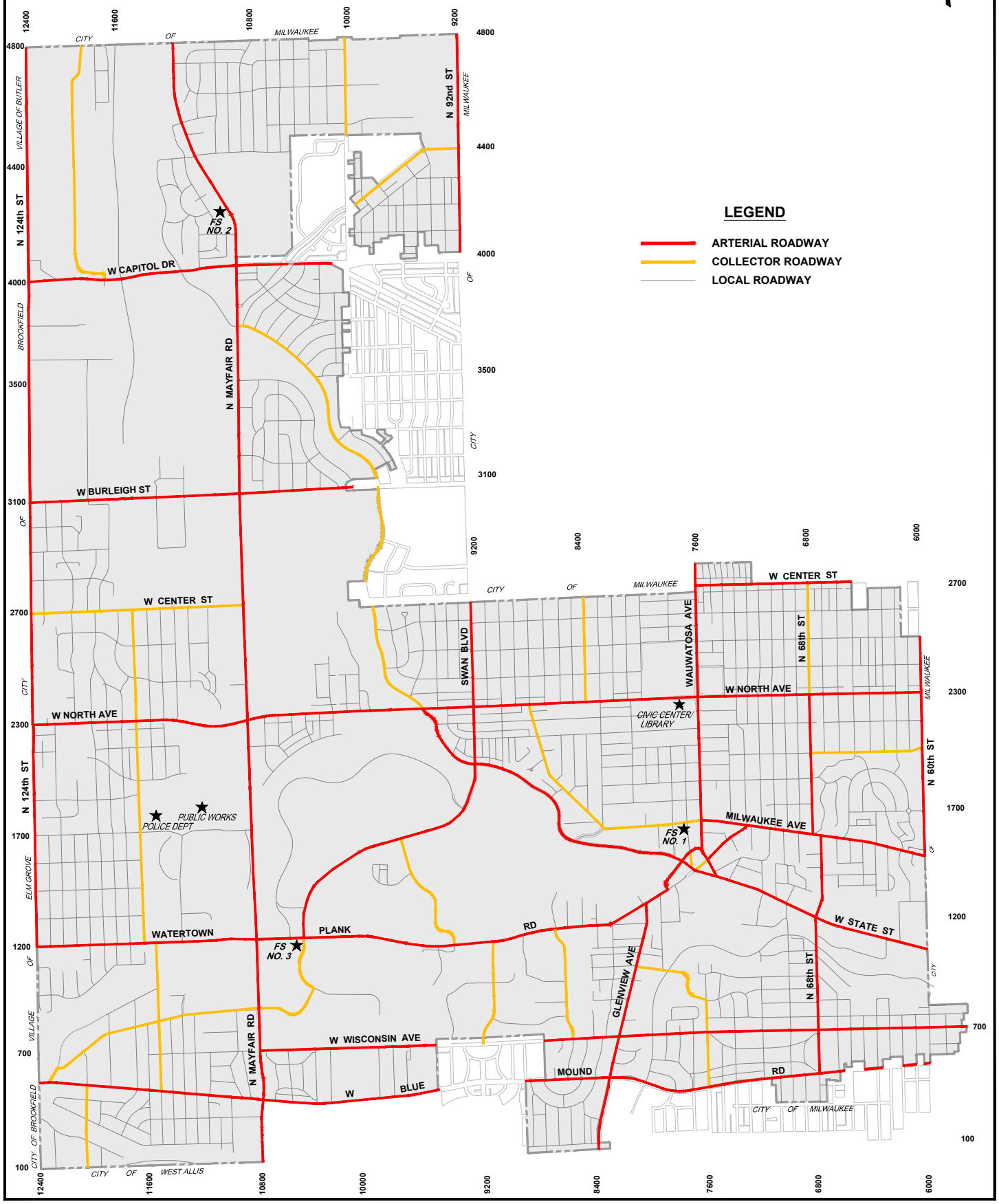
F. Contact

Anyone may complete a traffic calming request by using the QR code to the right, which leads to https://www.wauwatosa.net/government/departments/public-works/engineering/traffic-parking/traffic-calming-application. Need assistance or have

questions? Contact the Engineering Division at (414) 479-8927 or via email at tengineering@wauwatosa.net.

VI. Appendix A – Functional Classification Map

CITY OF WAUWATOSA
ARTERIAL & COLLECTOR ROADWAYS
August, 2023



FILE NAME : S:\DEPARTMENT FOLDERS\ENGINEERING\TRAFFIC CALMING\TOSA ARTERIALS-COLLECTORS MAP\WAUWATOSA ARTERIALS-COLLECTORS MAP.DWG PLOT DATE : 5/21/2025 5:46 PM

City of Wauwatosa

Neighborhood Traffic Management Program Calming Guidelines

Original Plan Adopted: March 2016
Updated: November 2016
Updated: December 2020

DEVELOPMENT DEPARTMENT
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Table of Contents

Page No.

List of Appendices

List of Figures

Page No.

List of Tables

Page No.

1 Introduction

The City of Wauwatosa Neighborhood Traffic Management Program Calming Guidelines (NTMPCG) are designed to address traffic concerns on the City's residential streets. The City of Wauwatosa has developed the Neighborhood Traffic Management Program (NTMP) as a Traffic Calming Policy through which residents can request that the City address concerns about traffic safety in their neighborhoods. The Wauwatosa NTMP is intended to address traffic concerns on all neighborhood streets within the City.

The following traffic calming guidelines address the NTMP purpose, how to identify neighborhood traffic concerns, how traffic problem solutions are developed, how traffic calming solutions are implemented, and how the City prioritizes the implementation of recommended solutions. The Neighborhood Traffic Management Program Calming Guidelines (NTMPCG) emphasize neighborhood involvement in the identification, confirmation, and education of potential neighborhood traffic problems and solutions. The NTMPCG focuses on traffic calming as a tool that reduces the negative effects of automobile use, alters driver behavior, and improves neighborhood quality of life for residents, pedestrians, and bicyclists on neighborhood streets.

Once a traffic problem is identified and confirmed the Neighborhood Traffic Calming Guidelines uses a four-step method to direct and modify travel behavior through a neighborhood. These measures are categorized into what is commonly called the "4 E's:"

- Education
- Enforcement
- Encouragement
- Engineering

The first step involves education, which is directed at informing neighborhood residents and drivers of speed limits and pedestrian awareness. Enforcement takes another step and involves the use of police patrols to usually issue speeding tickets. Encouragement reinforces the first steps by increasing awareness using tools such as yard signs flyers, newsletters, and demonstrations. The final step, engineering, typically involves construction of traffic calming devices.

The most common solutions suggested by community residents for neighborhood traffic issues are requests for stop signs or children at play signs. Appendix A describes the purpose of stop and children at play signs and why they are inappropriate for use as traffic calming measures.

Traffic calming devices described in the Traffic Calming Tool Kit in Appendix B use physical measures to encourage people to drive more slowly. They create physical and visual cues that induce drivers to travel at slower speeds. Traffic calming measures are typically self-enforcing and do not normally require police enforcement to operate successfully.

Most motorists drive roadways based on what they feel are safe and appropriate speeds. The design of a roadway can encourage slower speeds and reduce cut-through traffic. Narrow streets, avoidance of long straight roadways and street network connectivity all contribute to calming traffic on neighborhood streets. While landscaping does not force a change in driver behavior, it can provide the visual cues that encourage people to drive more slowly. Many of these street design principles, including narrow street widths of 26 feet or less, have already been employed in the construction of Wauwatosa's neighborhood street system.

Typically, traffic-calming measures are targeted to reduce excessive travel speeds, reduce cut-through traffic, and control pedestrian/bicycle conflicts. Physical treatments such as medians, traffic circles, road narrowing, speed tables, and diverters, are used to alter behavior of drivers when they travel through a neighborhood.

1.1 Purpose

This NTMPCG report documents the policies and procedures for implementing traffic management measures on existing neighborhood streets in the City of Wauwatosa. Roadways are typically classified as arterials, collectors and neighborhood (local) streets. This program only applies to neighborhood streets directly under the City of Wauwatosa's control and does not apply to arterials or to state or county roadways as identified in Figure 1-1 below.

The City of Wauwatosa NTMPCG is consistent with the '4E' principles, initially focusing on education, which involves neighborhood action. In some cases, education will be combined with police enforcement, encouragement, and passive traffic control measures such as the use of radar trailers, signage, or turn restrictions. These are defined as Level One Options. If traffic concerns persist after Level One Options have been implemented, a neighborhood may move on to more substantial engineering measures such as speed tables, traffic circles, roadway narrowing, or other even more restrictive measures that limit neighborhood accessibility such as traffic diverters and cul-de-sacs. These are defined as Level Two Options.

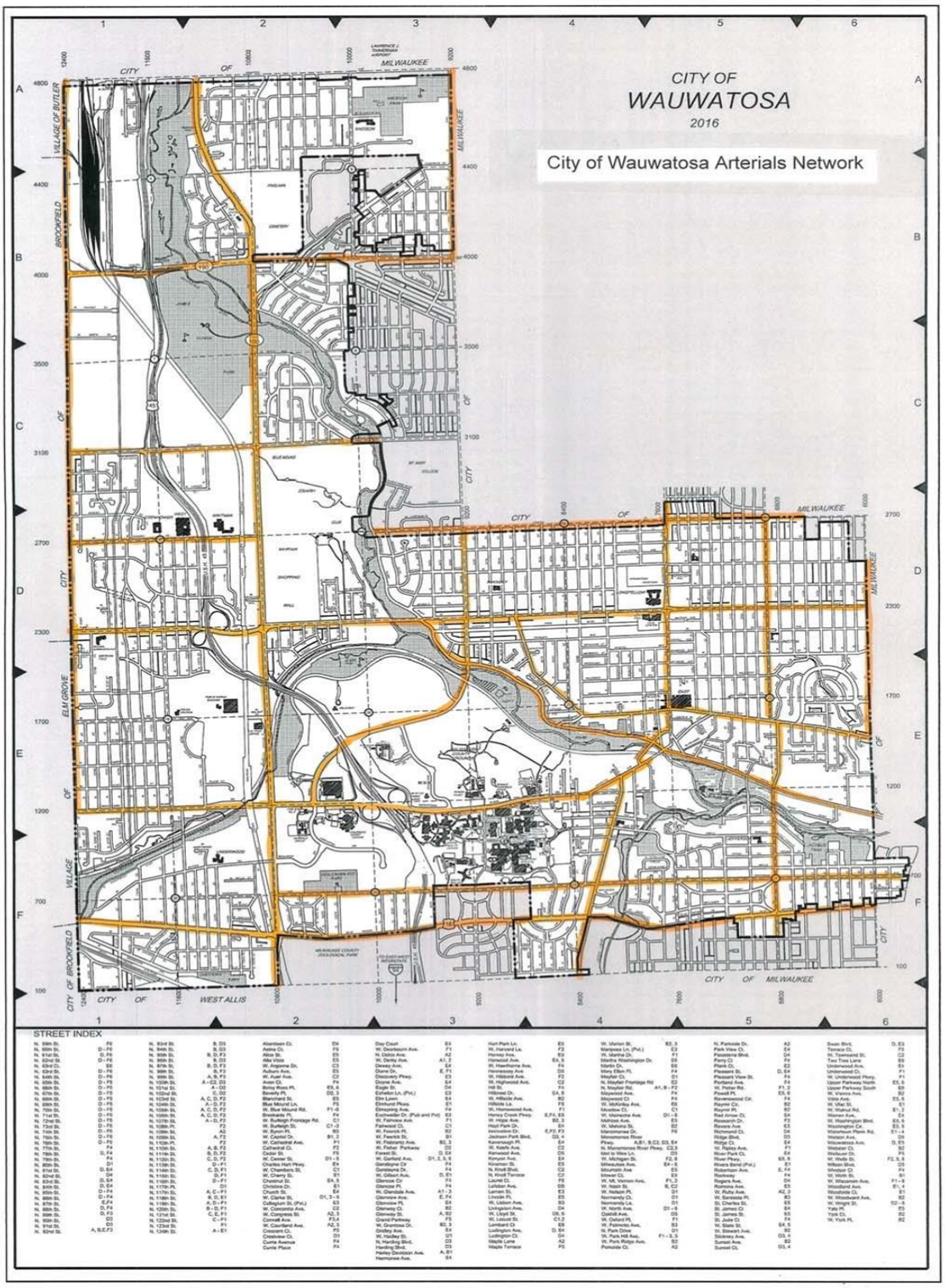
1.2 Benefits

Traffic calming measures can be used to achieve the following goals:

- Increase neighborhood safety
- Increase neighborhood aesthetics (atmosphere and landscaping) and livability
- Decrease neighborhood traffic intrusion (cut-through traffic)
- Improve traffic efficiency throughout the City
- Increase internal and external connectivity of neighborhood street networks
- Increase diversity of street use (e.g. the street is used not only for motor vehicles travel, but also for pedestrians, bicyclists, etc.)
- Increase pedestrian/bicycle use of streets and sidewalk/pathways
- Improve/enhance neighborhood identity (traffic circles, narrowing's or gateway treatments)

Figure 1-1: NTMPCG Ineligible City of Wauwatosa Arterials

Figure 1-1: NTMPCG Ineligible City of Wauwatosa Arterials



1.3 **Public Involvement**

Involvement of the community is key to a successful neighborhood traffic management program. Public input and response to the traffic calming program will indicate areas of residential traffic concerns around the City. The input and responses received from local citizens will help the City address and prioritize improvement projects. In Wauwatosa, NTMP City staff works cooperatively with neighborhood communities to help address existing and potential traffic concerns.

The public will be able to give input and responses.
Resource: Wisconsin DOT

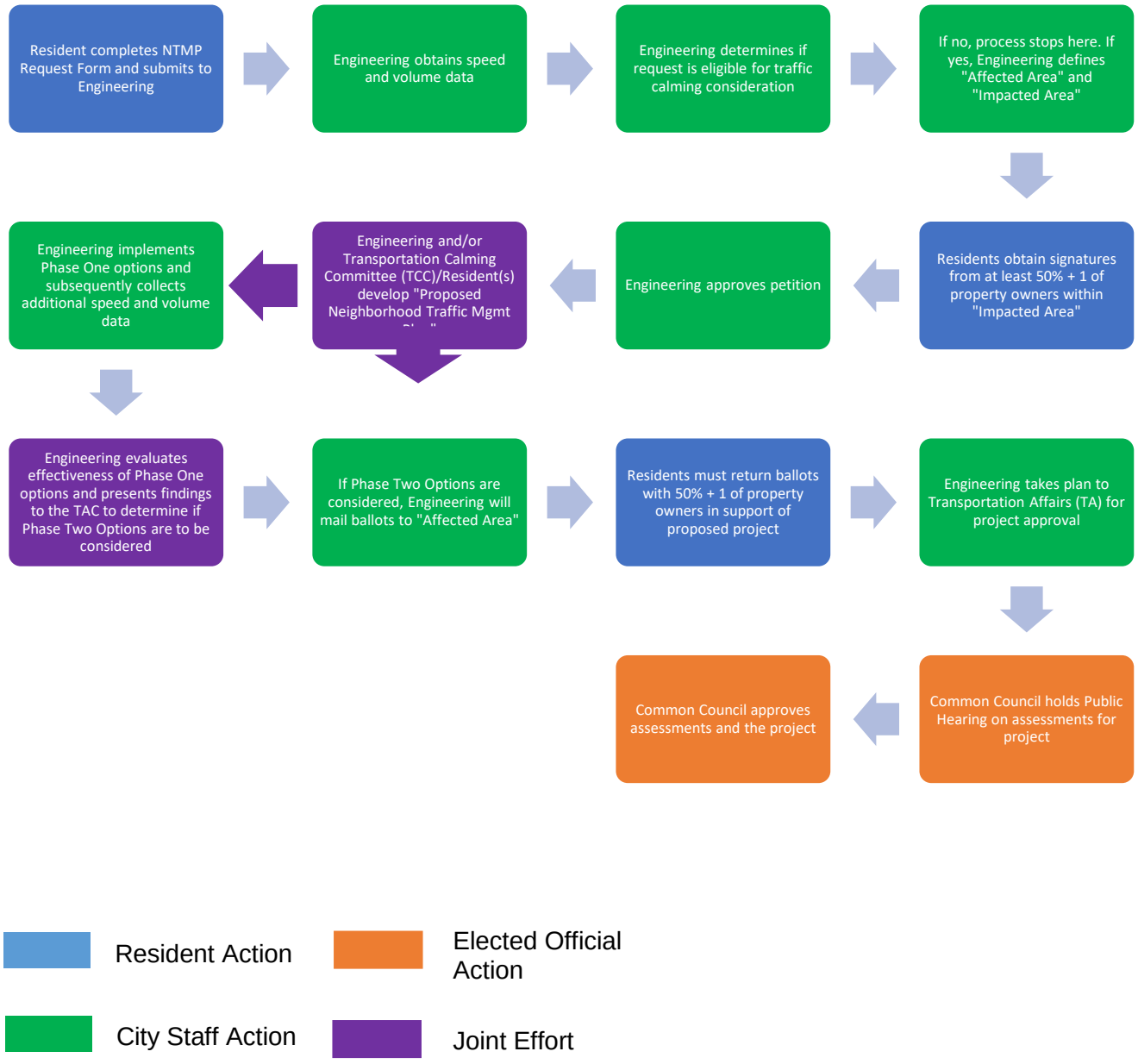
Neighborhood support is crucial to successfully implementing and sustaining traffic management strategies. Therefore, whenever practical, residents, businesses, community groups, and institutions should take the lead in initiating requests for traffic calming projects.

To keep the community involved in their requests, the City of Wauwatosa staff will work with community members and groups on how to gather data related to their traffic concern and in the development of traffic management solutions.

2 Neighborhood Traffic Calming Process

Figure 2-1 illustrates the traffic calming process described further in the following document.

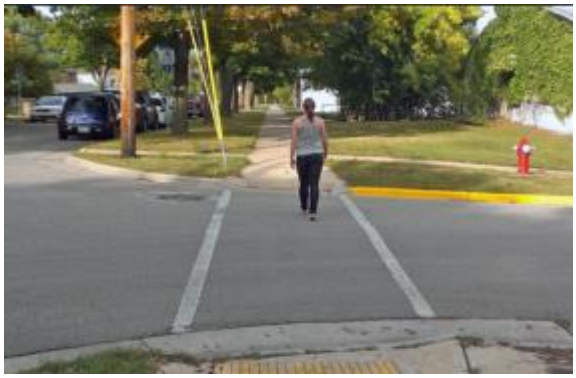
Figure 2-1: Neighborhood Traffic Management Program Process



2.1 Identification of Traffic Concern and Eligibility

Identifying and eligibility determination of neighborhood traffic concerns is a five-step process that involves:

1. Resident completes NTMP Request Form and submits to Engineering;
2. Engineering collects basic speed and volume data;
3. Engineering determines if concern is eligible for traffic calming process;
4. If eligible, Engineering determines “Affected Areas” and “Impacted Areas”
5. Residents obtain signatures from at least 50% plus 1 of property owners within "Impacted Area” and submits to Engineering.



One concern is pedestrian safety.
Resource: City of Wauwatosa Bicycle and Pedestrian Facility Plan

2.1.1 Resident Completes NTMP Request Form and Submits to Engineering

The process starts when a resident or community group submits an NTMP Request Form, which can be found on the City website, to Engineering. A copy of the NTMP Request form, and accompanying Traffic Study petition form, is included in Appendix C. City staff will determine if the street or intersection of concern is applicable for consideration by the Neighborhood Traffic Calming Guidelines. To be eligible for the program, the street must:

* Be a residential neighborhood or collector street under the City of Wauwatosa’s jurisdiction
* Have traffic volumes greater than 300 vehicles per day
* Have a posted speed limit of 30 mph or less
* Be at least 500 feet in length
* Not be cul-de-saced

Note: The City may choose to provide education and enforcement components of traffic calming on streets that are less than 500 feet in length or are cul-de-saced. Streets and roadways servicing emergency response vehicles such as fire trucks may have limits to the implementation of certain traffic calming measures. Additional City coordination will be needed for addressing traffic calming on these roadway segments.

2.1.2 Engineering Collects Basic Speed and Volume Data

Once the NTMP Request Form has been reviewed by staff, the next step in the Neighborhood Traffic Management Program Calming Guidelines involves collecting related traffic data to confirm the existence and magnitude of the traffic concern.

Engineering will obtain site data including traffic volumes and speeds.

2.1.3 Engineering determines if concern is eligible for traffic calming process

After Engineering determines project eligibility if there are numerous eligible projects in the queue, then the Traffic Calming Committee (TCC) will meet to review data collected to determine prioritization within the traffic calming program. Prioritizing factors include:

1. First come, first served;
2. Consideration as to whether the district recently had traffic calming measures as a way to ensure equality among districts; and
3. The need of traffic calming in the requested area.

Based on the data collected, priority in the program may be determined by the TCC based on specific, definable criteria related to:

* **Traffic Speeds**

  As motor vehicle speed increases, noise increases and pedestrian and bicycle safety decrease. Some of the most dangerous traffic safety situations involve infrequent vehicles traveling substantially above the speed limit.

* **Daily Traffic Volume Levels**

  As motor vehicle volume increases, noise increases, and pedestrian and bicycle access decrease. The local function and feel of a street also diminishes. From studies measuring resident opinions, the ideal traffic volume on a local neighborhood street is less than 300 vehicles per day (vpd), and residents generally are able to accept volumes up to 800 vpd.

Table 2-1: Neighborhood Street Traffic Calming Thresholds

The table below summarizes the traffic concern characteristic thresholds required for a neighborhood street to be considered for traffic calming considerations. One or more of the three thresholds should be met to proceed with traffic calming measures.

Traffic Criteria	Minimum Threshold
* 85th Percentile Speed	Greater than 5 mph over the posted speed limit
* Significant Speeding	10% of traffic at or greater than 10 mph over the posted speed
* Daily Traffic Volume	Exceeds 800 vpd on neighborhood streets or 1,500 vpd residential collectors

If the results of the study conclude that the criteria for traffic calming have not been met, Engineering will conclude that the concern is not eligible for the traffic calming program at this time. The concern cannot be brought back to the City for three years unless something significantly changes existing conditions.

If Engineering reviews the data and verifies that one or more of the thresholds have been met, they will determine the “Affected Areas” and “Impacted Areas” as described below.

2.1.4 City Determines "Affected Areas" and "Impacted Areas"

After the City receives a traffic concern and determines it is eligible for the NTMP, Engineering will define an "Affected Area" and an "Impacted Area." An "Affected Area" includes all property directly affected by the traffic issue. An "Impacted Area" includes any property that would be impacted by any proposed traffic management solution.

The size and extent of the impacted area will take into consideration the type of traffic management project being proposed, the type of properties in the vicinity, and the characteristics of the street network surrounding the proposed project site(s).

These areas may include:

- All properties abutting the proposed street segment to be modified.
- All properties on adjacent street(s) with ingress/egress only possible via the modified street segment.
- All properties on adjacent street(s) that have alternative points of ingress/egress but will be otherwise affected by the modified street segment.

Spot-specific concerns will generally relate to a particular intersection or street segment, whereas neighborhood-wide concerns will generally relate to conditions or behaviors affecting the neighborhood street network. The City may elect to treat some spot-specific concerns as neighborhood-wide concerns if it decides that they could be better addressed in the context of the street network system. At the City's discretion, the potentially affected area for a spot-specific concern may be extended to the entire street block. The potentially affected area for a neighborhood-wide concern should generally be a distinct area that is bounded or bisected by major roadways or geographic features. If the traffic concern influence area (but not the specific street being considered) may impact a larger neighborhood area the City will inform residents of the larger neighborhood area of the perceived problem and potential traffic calming alternatives under consideration.

2.1.5 Residents obtain signatures from at least 50% plus 1 of property owners within "Impacted Area" and submit to Engineering.

Engineering will provide a map or description of the impacted area indicating individual properties in the area to the requester. Requesters must obtain signatures from at least 50% plus 1 of the property owners within the impacted area to move forward with the request for a neighborhood traffic management effort (the petition can be found in Appendix C).

2.1.6 Development of "Proposed Neighborhood Traffic Management Plan"

Engineering will work with the applicant or the neighborhood to develop a traffic management plan. If the neighborhood is involved, City staff, in coordination with the local Alderperson(s) will arrange a meeting with the resident, community group, or neighborhood that identified the traffic concern or is affected/impacted but the measures. At the meeting, City Staff will help the neighbors develop a "Proposed Neighborhood Traffic Management Plan.

The Plan will include:

- Evaluation of problems and needs
- Identified goals and objectives
- Suggested Phase One non-construction solutions (education, encouragement, enforcement, and passive traffic control devices), a work plan for implementation, and a plan for post evaluation to determine if the non-construction solutions have been effective.
- Suggested Phase Two traffic calming measures, including general estimated costs and an assessment plan to inform residents of the potential costs associated with the solutions.
- All City departments will have an opportunity to participate in plan preparation.

Neighborhood meetings can be used to address local concerns. Source: www.wisn.com

3 Alternative Solutions

3.1 Neighborhood Meeting / Workshops

City staff and the local alderperson should coordinate to establish a date and location for a neighborhood meeting. The City should notify residents in the project area through mail of the meeting. Residents should also encourage their neighbors to attend.

3.1.1 Develop a Proposed Neighborhood Traffic Management Plan

At the meeting, City Staff will help the neighbors develop a "Proposed Neighborhood Traffic Management Plan." The Plan will include:

- Evaluation of Problems and needs
- Identify goals and objectives
- Suggested Phase One non-construction solutions (education, encouragement, enforcement, and passive traffic control devices), a work plan for implementation, and a plan for post evaluation to determine if the non-construction solution have been effective
- Suggested Phase Two traffic calming measures, including general estimated costs and an assessment plan so people will know what it will cost

The City will help participants understand the full range of possible measures, their likely effectiveness, and their costs. Participants articulate their goals for the neighborhood and discuss how NTMPCG tools might help them realize those goals. Concepts or alternatives that should be considered at the workshop are described in the following resources:

- ITE Traffic Calming State of the Practice: http://www.ite.org/traffic/tcstate.asp
- TrafficCalming.org, http://www.trafficcalming.org

Appendix B of this report also lists typical traffic calming measures, their appropriate application, and their expected effectiveness.

At the workshop, the participants may create a project committee of 3 to 10 residents that work with the City to develop a specific NTMPCG project proposal. The goals, available NTMPCG tools, and committee charter become the NTMP project action plan. Appendix D contains a draft Proposed Neighborhood Traffic Management Plan form.

3.1.2 **Plan Assessment**

The City reviews and refines the specific project proposal. Bicyclist, pedestrian, emergency vehicle, and maintenance needs may influence the placement and design of specific measures. In addition, the project must be feasible and consistent with safety and engineering principles and judgment.

Street closure used as a traffic calming measure
Resource: ITE Traffic Calming

If the size of the project area has changed since the application, the City adjusts the project area and may require that the resident obtain additional signatories to represent 50% plus 1 of the residents in the larger study area. The City may also adjust the project area if it determines that the proposed measures are likely to cause substantial or undesirable traffic diversions.

3.2 **Initial Traffic Management Phase One Solutions**

Generally, it is desirable to address traffic problems with the least restrictive measures possible and move to more costly geometric solutions only after other measures have proven ineffective. Therefore, City staff may choose to implement fairly low cost, undisruptive initial traffic management solutions before proceeding into more formative calming measures. These solutions fall into four categories: education, enforcement, encouragement, and engineering. The categories are explained below.

3.2.1 **Education/Encouragement**

The neighborhood can be educated concerning the traffic management problem. This education can include the use of:

* Radar speed trailer
* Brochures/pamphlets describing the problem, including suggestions for what the neighborhood residents can do to improve the situation
* Lawn signs, provided by neighborhood volunteers

3.2.2 **Enforcement**

If police resources are available, regular and random patrol and enforcement activities can address speeding and other traffic control concerns.

3.2.3 **Engineering**

The City may choose to install enhanced signing or pavement markings to address concerns. Initial cost and any on-going maintenance costs of these Phase One measures may need to be paid for by the residents. Examples of these measures can include:

* Roadway narrowing through pavement marking of medians or bike lanes
* Increased visibility of pedestrian crossing pavement markings
* Additional pedestrian crossing signs
* Appropriate speed limit signs

3.3 **Phase Two Solutions**

Design, construction, and any future maintenance of Phase Two solutions are paid 100% by the residents.

After a predetermined time period, Engineering will evaluate the effectiveness of the non-construction elements of the Phase One plan. The results of this study will be presented to the local alderpersons to the Transportation Affairs Committee. If the Phase One efforts are not satisfactory, Phase Two traffic calming techniques will be considered as outlined in the Proposed Neighborhood Traffic Management Plan.

In according with the City of Wauwatosa Traffic Calming Countermeasure Guidelines, Engineering and the Transportation Affairs Committee will consider Phase Two engineering solutions such as bump outs, chokers, traffic circles, chicanes, speed tables, diverters, closings, etc. Engineering will analyze the options and make a recommendation for the appropriate engineering countermeasures. Engineering will take into consideration such items as snow removal, street sweeping, and the impact to ambulances, fire, and police when determining these solutions. Solutions in the Traffic Calming Toolkit are discussed in Appendix B.

Design, construction, and any future maintenance of Phase Two solutions are paid 100% by the residents.

Payments will be made via special assessments which will follow the City's public hearing process. Residents in the affected area must achieve a 50% + 1 positive vote of the parcels in the affected area. There is one vote per property. The ballot and voting process is described in Section 4.0Once the project cost is determined and the affected property owner assessment is approved by the Common Council, Engineering will finalized construction plans and project specifications, and solicit bids from contractors to construct the traffic calming devices.

3.4 **Temporary Measures (Street Continuity Disruptions Only)**

In general, temporary traffic calming devices should be avoided. A number of agencies have adopted a policy of installing temporary traffic calming devices to test their effectiveness and the public's acceptance. There are a number of advantages and disadvantages to installing temporary traffic calming devices. Advantages include the cost and the opportunity to field test devices without committing to permanent installations. The disadvantages, however, often outweigh the advantages. Temporary devices such as traffic circles or curb extensions are generally not as effective as permanent installations as they do not have the same level of

visual break created by landscaping. In addition, the installations are usually unattractive and reduce the acceptance and support by the general public or neighborhood residents. Most temporary installations also become attractions for road litter adding to the aesthetic problem. If, for example, a City has never installed traffic circles and the citizens are not familiar with circles, temporary installation using bumper blocks or barrels will be their first, and possibly only, exposure to a circle. It becomes difficult for them to imagine that such a device placed on a permanent basis could enhance their neighborhood. In general, programs and plans should be well thought out and the use of temporary installations avoided unless absolutely necessary. If temporary devices are used, care should be taken to address the issues of aesthetics and effectiveness.

For proposals that involve street continuity disruptions (diverters, cul-de-sacs, etc.), the City should implement trial temporary traffic calming measures that simulate the proposal that is being proposed by the neighborhood. The trial measures should be implemented during the non-winter months for the duration of at least four months. Examples of trial implementations include:

* Using concrete barriers or barricades for diverters.
* Using barrels for cul-de-sacs.
* Using barrels or delineators for turn restrictions.

Trial installations help neighbors understand the potential effectiveness of the measures and their effect on traffic patterns. Cost of trial installations may be borne by the residents.

4 Recommendations

4.1 Neighborhood Informational Meeting

Depending on the participation levels at the neighborhood workshop, neighbors or City staff may feel it is necessary to hold a neighborhood informational meeting to display the project plans and answer questions regarding the proposal. If this is necessary, it should be held prior to the balloting process described in section 4.2 below.

4.2 Balloting

If the project is feasible and meets criteria, the City mails one ballot to each parcel in the project area. A sample ballot is included in Appendix E. Each household, business, and nonresident property owner in the project study area receives one vote per parcel.

4.3 Decision

To pass the balloting, ballots must be returned to the City within four weeks of the mailing and at least 50% + 1 of the parcels must return a ballot marked in favor of the project. If the project passes, it moves to the implementation stage.

If the project does not pass, the process stops. At the City's discretion, the project committee may revise the proposed project for a second balloting without restarting the process. To avoid creating a nuisance to the neighborhood, if the revised project does not pass the second balloting, the NTMPCG program will not consider the issue again for a period of at least three years unless conditions substantial change.

4.4 Implementation Schedule

Depending on City staffing constraints to process numerous traffic calming requests the City may not be able to implement all of the traffic calming projects in a single fiscal year. The projects that have been identified through the NTMPCG process for implementation may be ranked by priority as described in Section 5.0 of these guidelines. Should the City not be able to implement all of the traffic calming projects in a single fiscal year the project will automatically go to the top of the City priority list for the following year.

5 Priority Ranking Process

5.1 Scoring

Because of limited resources, the City may not be able to implement all traffic calming project proposed by the NTMP. The NTMP scoring system allows the City to prioritize traffic calming projects based on the following neighborhood street and land use characteristics. These characteristics include the initial set of traffic calming guideline thresholds plus additional land use and City planning related considerations

* Traffic speeds
* Daily traffic volumes levels
*
* Motor vehicle crashes
* Proximity to schools and parks
* Critical locations
* Pending Road Construction
* Relationship to neighborhood and City plans

5.1.1 85th Percentile Motor Vehicle Speed

The point value for this criterion is equal to the 85th percentile motor vehicle speed (in miles per hour) measured on the subject street, minus 25.

5.1.2 Significant Motor Vehicle Speed

The point value for this criterion is the percentage of traffic that is traveling at least 10 mph above the speed limit.

5.1.3 Average Daily Traffic Vehicle Volume

The point value for this criterion is equal to the average daily traffic vehicle volume (in vpd) divided by 1,000, and rounded to the nearest whole number. If possible, the motor vehicle volume should be measured over a 48-hour period.

5.1.4 Crash History

The point value for this criteria is the number of crashes that have occurred at this location over the last three years excluding non-correctable crashes such as those involving deer, snow/ice pavement conditions, driver health related seizures, or motorists operating a vehicle under the influence.

5.1.5 Distance from Park or School

Motor vehicle noise can have an adverse impact on parks and schools. In addition, these facilities typically attract pedestrians and bicyclists, especially children. Bicycle and pedestrian volumes (or demand) are typically the highest on streets adjacent to these facilities and decrease as the distance from the facility increases.[1]

The point value for this criterion is equal to one one-hundredth of the difference of 1,000 and the linear street or sidewalk walking distance between the subject street and the nearest park or school. The minimum point value is 0. Other pedestrian-oriented facilities (such as the library or pool) may also be considered for this criterion. For example, if the problem area on the subject street is 400 feet away from a park, the point value associated to this distance will be (1,000-400) x 0.01 = 6.

5.1.6 Critical Location

Certain intersections or street segments have the potential for acute conflict between motorized and non-motorized traffic. These “critical locations” may include:

* Multiuse trail crossings.
* Intersections where the minor street is marked as a bicycle route.
* Intersections staffed by a school crossing guard.
* Streets or intersections with high bicycle or pedestrian volumes.
* Streets or intersections with high (unmet) bicycle or pedestrian demand.
* Streets or intersections within a school zone.

A project that improves conditions for bicyclists or pedestrians at a critical location may receive up to 10 points for this criterion, depending on the extent of both the need and the improvement.

5.1.7 Pending Road Construction

Traffic calming measures can be easily implemented at little additional cost when roadway plans are prepared for reconstruction. When residential streets are planned for reconstruction, the City may seek to capitalize on this opportunity and encourage the implementation of traffic calming measures as part of the reconstruction project. To acknowledge this criteria and opportunity, up to 10 points is awarded to the scoring.

5.1.8 Neighborhood and City Planning

Neighborhood-wide projects typically require extra effort and produce more comprehensive traffic management solutions. To acknowledge this effort, the City may award 5 points to a neighborhood-wide project for this criterion. This is a subjective measure.

The score for a neighborhood-wide project is the average of scores for individual project elements rounded up to the next whole number. The addition of 5 points reduces the penalty incurred by individual project elements that score lower than the overall project average but as a

[1] Current pedestrian and bicycle volumes can be a poor indicator of actual pedestrian and bicycle travel demand if roadway and traffic conditions discourage these modes.

Scoring Priority Calculation system provide a positive synergistic enhancement to calming the neighborhood street network problem.

Table 5-1 summarizes the scoring criteria, which are explained in the following subsections. The proposed project's score is the sum of the point values for each of the criteria. Projects with a score of 15.0 or more are eligible for physical traffic calming measures.

Table 5-1: Project Prioritization Scoring Criteria

Criterion	Point Formula
85th Percentile vehicle speed	85th Percentile motor vehicle speed (in mph) - 25
Excessive motor vehicle speed	Percent of traffic traveling at least 10 mph over speed limit
Motor vehicle volume	Average daily motor vehicle volume (in vpd) / 1000
Distance from school or park	(1,000 - linear distance to nearest school or park in ft)/100
Critical location	Up to 10 points
Crash history	Number of crashes in last 3 years
Pending road construction	Up to 10 points
Neighborhood planning	5 points

This score is used to prioritize the projects under implementation consideration. The project is placed on the NTMPCG project list, and its score is compared to other projects that have been proposed but not yet implemented. If the project receives a high score that places it near the top of proposed projects, the process continues. City

Unimplemented projects remain on the NTMPCG list for three years. Every three years, the advocate is notified and may submit a new application to keep the project on the list for an additional three years.

5.2 Formal Review

Engineering reviews the project and makes a recommendation to the City Council. This review includes the project score, the project action plan, the proposed measures, the results of any temporary installations (if applicable), and the results of the balloting.

The Council will make the final determination on whether or not to implement the project.

6 Costs and Implementation

6.1 Phase One Project Costs

The City may choose to fund some Phase One project costs after taking into consideration the availability of funds, whether or not the improvement is recommended by an approved City plan, and/or staff recommends.

If the City decides not to fund Phase One improvements and the residents wish to proceed with funding the approved improvements, 50% + 1 of the parcels must vote in favor of the project.

6.2 Phase Two Project Costs

Costs of Phase Two improvements must be paid by the residents. 100% of the design, construction, and future ongoing maintenance of Phase Two improvements are paid for by the property owners. Project costs shall include all construction costs, plus 12.5% engineering costs.

6.3 Implementation

City staff directs implementation of the permanent measures approved by the Council.

Many traffic management measures include landscaping. The City may add trees as part of the project. Other vegetation may be included if a volunteer or organization commits to its maintenance.

6.4 City Implements Project

Affected area property owner assessments will be used to construct the recommended traffic calming project. After Common Council approval of the property assessments, the City will install the project, either using City forces or by enlisting the services of consultants and contractors.

6.5 Traffic Calming Device Construction Costs

Appendix F lists the cost estimates of selected typical calming devices. Depending on the neighborhood street length or study impact area street network several devices may need to be constructed as a part of a system of calming devices increasing the total cost to effectively calm traffic.

6.6 Maintenance and Costs

If the City funds Phase One improvements, the City will be responsible for future maintenance. If residents fund any improvements, the ongoing maintenance will be assessed to the residents.

The City Department of Public Works performs the maintenance of the traffic management measures, and the City Parks, Recreation and Forestry Department maintains any trees in the right-of-way. If other landscaping is not maintained by the volunteers, it will be removed at the discretion of the City.

6.7 Evaluation

The City collects traffic data one year after implementation. The data may include motor vehicle speeds, motor vehicle volumes, crash rates, and pedestrian and bicycle usage. This data can then be used to determine the ‘success’ of the project and in the implementation of future traffic calming projects.

Appendix A

Inappropriate Traffic Calming Solutions

The most common request by residents of a community to reduce speeding, and cut-through traffic in residential neighborhoods is to install ‘Stop’ or ‘Children at Play’ signs on their neighborhood streets.

Stop Signs

Because a stop sign causes a substantial inconvenience it should only be used where warranted. A stop sign is a valuable and effective traffic control device when used under appropriate conditions. They are meant to help drivers and pedestrians at an intersection decide who has right-of-way. National studies have shown:

1. that crashes can increase at intersections where stop signs are installed even though they are not warranted.

2. that speeds can actually increase between stop signs by 3 to 5 mph, particularly when they are used inappropriately.

3. compliance at inappropriate stop sign locations is poor, resulting in a false sense of security and accidents involving motorists and pedestrians expecting cross traffic to stop.

4. the proliferation of stop signs at inappropriate locations creates a lack of respect for stop signs that are warranted.

Stop signs can be used for two-way or four-way stop conditions. According to the Manual of Uniform Traffic Control Devices stop signs are used for:

Two-Way Stop Signs

* Where a local street enters a through street: or

* Where a safe approach speed is less than 10 mph due to permanent visibility conditions – such as buildings, trees, shrubs or terrain: or

* Where crash history indicates three or more reported crashes in a 12-month period, and the crashes could have been avoided by the use of a stop sign; or

* Where circumstances and crash history indicate that observing the normal right-of-way rule could still be hazardous, resulting in crashes.

Four-Way Stop Signs

* Where traffic signals are needed; four-way or all-way stops may be used as an interim measure; or

* On local streets, where there has been an average of five or more reported crashes per year and these crashes would likely have been prevented by an all-way stop; or

* Where the number of vehicles entering an intersection averages at least 500 vehicles per hour for any eight hours of the day, and the combined vehicular and pedestrian volumes on the minor street averages at least 200 per hour for the same eight hours.

Children at Play Signs

Signs are used to guide and direct motorists. Unnecessary signs can confuse, distract and irritate motorists. Studies have shown that Children at Play signs normally have no effect on driver behavior. The MUTCD discourages the use Children at Play Signs. The Children at Play sign is unclear and unnecessary. It suggests to a driver that:

* If no such sign is present on another street, children will not be playing there, therefore it is OK to speed or be less careful.

* Other drivers might wonder what time of day will children be present or are they always present?

* When no children are seen by a driver in many cases they will assume the sign is not pertinent anymore.

* It gives parents and children a false sense of safety.

* It can give children the impression that it's OK to play in the street.

Almost all neighborhood streets have children, which would require signs to be placed on all streets adding to sign proliferation problems if implemented.

Specific warning signs are recommended in the MUTCD for school zones and pedestrian crossing locations where they clearly serve a purpose

Appendix B

Traffic Calming Tool Kit

B.01 Traffic Calming and Traffic Management

There are two basic elements involved in Neighborhood Traffic Calming Guidelines. They are classified as traffic calming and traffic management. Both elements use physical devices to change driver behavior. Traffic calming measures affect driver characteristics by slowing traffic speeds and/or discouraging through traffic from using neighborhood streets. In comparison, traffic management measures change street system use patterns by diverting traffic to arterial streets and balance neighborhood street system use.

Many neighborhood residents consider traffic calming to involve the installation of stop signs or 'Children at Play' signs. Studies have shown that, in most cases, these devices actually have no effect or in some cases can increase traffic speeds within neighborhoods and provide a false sense of safety.

Traffic calming measures are physical devices that change driver behavior. Traffic calming measures can be used to mitigate traffic safety problems or reduce speeding and cut-through traffic problems. For this report, traffic calming measures are organized into the following categories:

Traffic Calming Measures

1. Vertical deflection speed control devices
2. Horizontal deflection speed control devices
3. Gateways and intersection treatments
4. Reduced corner radii

Traffic management measures physically alter accessibility so that existing traffic patterns are required to change. These measures are quite extreme because they change route patterns, may increase emergency vehicle response times, affect local municipal service routes and potentially increase traffic volumes on adjacent neighborhood streets. The following are examples of traffic management measures:

Traffic Management Measures

1. Intersection turn restrictions
2. Intersection traffic diverters
3. Partial street closures
4. Full street closures

These measures should be implemented only as a last resort. If they are implemented, residents on all affected neighborhood streets should be part of the decision process.

B.02 Traffic Calming Measures

Speed Tables have a flat top and can also serve as a pedestrian crosswalk connection to parks or schools located in residential neighborhoods.

Example of speed tables are found on Menomonee River Parkway from State Street to Mayfair Road. Speed tables are designed to be uncomfortable to drive over if the speed limit is exceeded.

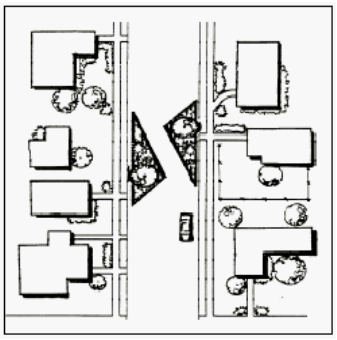
There are some considerations with speed tables and other vertical control devices. Generally, to be effective they must be installed as a series or system with specifics spacing requirements of not more than 300 feet apart.

Speed tables should not be used on sharp grades or curves. Grades should generally be less than 6%. Curves should have a radius greater than 400 feet with an angle of 60 degrees or less. Extra consideration should be given to street drainage, emergency vehicles, snow plowing and street sweeping equipment limitations. Also speed tables should be properly designed with tight profile tolerances to provide the correct ‘ride’ and not create undue driver discomfort. ITE has a new publication on the design of speed humps.

B.03 Horizontal Deflection Speed Control

A horizontal deflection speed control device causes drivers to slow down by requiring them to drive around a roadway obstruction.

Single-lane Slow Points sometimes called a 'choker', is a narrowing of the pavement that reduces the street width to one lane. This is typically accomplished by realigning the edge of pavement or adding landscape areas along the edge of the street they effectively create pinch points along the street. Slow points can be installed at midblock locations or used at intersections creating a gateway effect for an entering street.



Slow points require opposing motorists to yield to each other as they approach the slow point. In order to function effectively, the width of the traveled way cannot be wide enough for two cars to pass, generally 16 feet or less.

A Chicane horizontally diverts traffic through alternating roadside islands from the left to the right. A similar application to a chicane is an angled two-lane slow point. Chicanes can be subtle or quite restrictive depending on the design and angles (tapers) used. Shifting a travel lane will decrease speeds if the taper is not so gradual that motorists can comfortably maintain their speed. For traffic calming, the taper lengths may be as little as half of those typically used in a standard design.

Example of chicane
Resource: ITE Procedures and Warrants

Similar to a chicane, traffic can also be horizontally diverted by shifting parking from one side to the other when there is only roadway width for parking on one side of a street or by building landscaped islands in the center of a street, which also serve as a roadway narrowing.

There are several considerations for chicanes and slow points. They should be used only on low-volume, low-speed residential streets. Emergency response providers and sanitation collectors should be consulted before setting the widths. Chicanes and slow points may reduce the availability of on-street parking.

If landscape islands are installed they must be maintained by the residents. Good visibility should be maintained by planting only low shrubs or trees with high canopies. Also, design efforts should be made to ensure bicycle safety and mobility are not diminished.

Roadway narrowings reduce the width of the traveled way and, by doing so; increase the driver's desire to travel at a slower speed.

Bulb-outs create a roadway narrowing at a street intersection. In many ways, they are a gateway or threshold treatment. Bulb-outs often are coupled with a median island to further reduce the available width of the traveled way. One advantage of placing bulb-outs near intersections is that they reduce the crossing distance for pedestrians. Also, they prevent on-street parking near the intersection, which can increase the intersection sight distance if appropriate landscaping is used.

Two-Lane Slow Points are similar to the single-lane slow point where the street is narrowed yet two lanes are maintained. It differs from the angled two-lane slow point in that there is no horizontal deflection introduced into the travel lane alignment. Sometimes a median is used to further constrict the traveled way. If the travel lane widths are unchanged at the location of the slow point, it will have a minimal effect on speed.

There are several considerations with road narrowing measures. If a parking lane is provided, and there are periods of the day when there are few parked cars, the visual effect of roadway narrowing will be minimized. For this reason, it is desirable to have several bulb-outs into the parking lane to physically reduce roadway width during times when there are no parked cars. As with the other traffic calming measures, road narrowings must consider roadway drainage, bicycle, bus, emergency service and truck design vehicles.

Neighborhood Traffic Circles are circles placed directly in the center of an intersection. Traffic circles typically do not have stop sign controls. A neighborhood traffic circle differs from a modern roundabout in that its main purpose is not to keep traffic moving but to slow traffic. (Note: Roundabouts are an effective intersection treatment for collectors and arterials, but not for residential streets.) Much like horizontal deflection speed control devices, Neighborhood traffic circles reduce vehicle speeds by forcing motorists to maneuver around them. Drivers desiring to make a left turn are directed to go on the far side of the circle (3/4 of the way around the circle) prior to making the turn. Signs should be installed directing motorists to proceed around the right side of the circle before making a right turn off of the circle. Neighborhood traffic circles are commonly landscaped with bushes, flowers, or grass, most often at locations where neighbors have agreed to maintain the plants. In locations where landscaping is not feasible, traffic circles can be enhanced through special pavement materials.

B.04 Gateways/Intersection Treatments

A gateway is a geometric change in the roadway that signals a change in environment from a higher speed arterial or collector street to a lower speed residential area. Gateways often place a high emphasis on aesthetics and are frequently used in addition to distinctive signing to identify neighborhoods. Gateways may be a combination of roadway narrowings, bulb-outs, medians, signing, archways, roundabouts, or other treatments. Gateways should send a clear message to drivers that their environment has changed. Many gateway and intersection treatments have been discussed in the preceding paragraphs such as, raised pedestrian crossings, narrowings, and bulb-outs positioned at intersections. Gateway treatments can also include the use of traffic circles, distinctive arches or public art at street entrances to neighborhoods.

Center Island Narrowing, also called a *Gateway*
Resource: ITE Toolbox of Traffic Calming Measures

B.05 Traffic Management Measures

As mentioned previously, traffic management measures physically alter the street so that traffic patterns cannot remain the same. They tend to have much more pronounced traffic effects, both positive and negative. Careful planning with all potentially affected neighborhoods should take place before implementing a measure that will alter traffic patterns.

Traffic Diverters are islands built at an intersection that prevents certain through and/or turning movements. Diverters are a very severe traffic management measure because they change traffic patterns and the transportation system by restricting movements. Traffic diverters greatly affect people living in the neighborhood and should be considered only when less restrictive measures are not appropriate.

There are several types of diverters: diagonal, forced turn, and star. A diagonal diverter breaks up cut-through movements and forces right or left turns in certain directions. A forced turn diverter mandates a certain traffic movement, typically through the placement of channelization or roadway closures. The most frequent applications of this are right-in/right-out islands and left-turn in only islands. A star diverter is a star placed in the center of the intersection that forces right turns from every approach.

Right-in/Right-out Diverter
Source: Dan Burden

Left-in Only Diverter
Source: ITE Pedestrian Council

There are many implications that should be considered before constructing any type of diverter. Less restrictive measures should be considered first. Neighborhood traffic patterns must be evaluated to see how the diverter will affect other adjacent streets, and a diverter should have very strong neighborhood support before it is implemented. Diverters should be designed to allow full movements by bicycles and pedestrians. Finally, diverters disrupt the transportation system, which may affect emergency response times to portions of the neighborhood. For this reason, emergency response providers must be involved in the design process.

Partial Street Closures use a semi-diverter to physically prevent vehicles from entering a street at an intersection. A partial street closure could involve closing one direction of a two-way street. As mentioned, partial street closures at the entrance to a neighborhood must consider the traffic flow pattern of the surrounding streets, as these streets will probably experience increased traffic volumes. Partial street closure design should incorporate full (two-way) access for bicyclists and pedestrians. A partial street closure provides better emergency access than a full closure.

B.06 Comparison of Devices

As mentioned, various treatments accomplish different objectives. Table B.06.1 illustrates the likely effects from the application of different treatments. The table is derived from the City of Las Vegas Neighborhood Traffic Management Program Manual.

Table B.06.1 Effects of Traffic Calming Applications

Traffic Calming Treatment	Vehicle Volume	Vehicle Speed	Noise	Vehicle Conflicts	Traffic Diverted to Other Residential Streets	Ped/Bike Safety	Emergency Vehicle Access	***3.1.1.1.1 Recommended For***
Chicanes/Slow Points	↓	↓	↓	↓	↑	↓	↓	Residential Streets
Narrowings	↓	↓	↓	↑	↓	↑	↓	Residential/Collector Streets
Crossing Islands								Collector Streets
Bulb-outs		↓		↑[2]	↑	↓	↓	Residential / Collector Streets
Diverters	↓	↓	↓	↓	↑	↑	↓	Residential Streets
Gateways/Thresholds	↓	↓		↓		↑	↓	Residential / Collector Streets
Partial Turn Diverters/				↓	↑	↑	↓	Residential/Arterial Streets
Speed Tables	↓	↓	↑		↑	↑	↓	Residential Streets
Neighborhood Traffic Circle		↓	↓	↓		↑[3]	↓	Residential/Collector Streets

Table B.06.2 illustrates the effectiveness of several traffic calming measures in reducing traffic volumes. Table B.06.3 illustrates the effectiveness of several traffic calming measures in reducing traffic speeds. Table B.06.4 illustrates the effectiveness of several traffic calming measures in reducing traffic crashes.

[2] Vehicle conflicts may increase for turning movements of large trucks.
[3] Ped safety may decrease if motorists are swerving around circles instead of slowing down.

Table B.06.2 Average Volume Reduction

Calming/Control Measure	Percent Change
22-ft table	-12
Neighborhood traffic circles	-5
Narrowings	-10
One-lane slow points	-20

Source: Victoria Transport Policy Institute TDM Encyclopedia, May 27, 2003, www.vtpi.org.

Table B.06.3 85th Percentile Speed Reduction

Calming/Control Measure	Percent Change
22-ft table	-18
Raised intersections	-1
Neighborhood traffic circles	-11

Source: Victoria Transport Policy Institute TDM Encyclopedia, May 27, 2003, www.vtpi.org.

Table B.06.4 Safety

Calming Measure	Before	After	% Change
22 ft. tables	6.7	3.7	-45%
Traffic circles	2.2	0.6	-73%
All Measures	2.6	1.3	-50

Appendix C

Neighborhood Traffic Management Program

Application Forms

CITY OF WAUWATOSA
NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM
APPLICATION FORM

To request NTMP assistance from the City of Wauwatosa for traffic safety concerns on local residential streets, please complete this application and the neighborhood petition form and return them to:

City of Wauwatosa
Attn: William Wehrley
City Engineer
Engineering Services Division
7725 W. North Avenue
Wauwatosa, WI 53213
wwehrley@wauwatosa.net (Scan and email)

Date: _____ Aldermanic District Name or #: _____

Street Name(s), Including Block Number(s): _____

_____

Contract Name: _____

Mailing Address: _____ Zip Code: _____

Contact's Phone: _____ Contact's Email: _____

Reason(s) for Request (e.g. cut-through traffic, speeding, difficult to cross street, frequent crashes):

_____

_____

_____

_____

School(s) on the street? If so, please list: _____

_____

Park/community facility on the street? If so, please list: _____

_____

Any additional information you want to provide? _____

_____

CITY OF WAUWATOSA
NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM (NTMP)
REQUEST FOR TRAFFIC STUDY PETITION

We the undersigned residents, are requesting the City of Wauwatosa conduct a traffic study on _____

Insert Street Name and Block Number

and/or at the intersection of _____ and _____
Insert Street Name Insert Street Name

We the undersigned, understand that this petition is to initiate the City's neighborhood traffic management program to discuss a potential traffic management plan. This petition is *not* intended to authorize the approval or construction of any traffic calming treatments or other changes to the street. Data will be evaluated and the results will be discussed at a future Transportation Affairs Committee meeting to determine if a significant safety problem(s) exists and if the street/intersection should be considered for traffic calming improvements.

This petition should only be utilized after the City has determined your area is eligible for traffic calming and you have been given the "Impacted Area" for signature purposes. Please collect signatures from at least 50% +1 of the homes within the "Impacted Area". Please print as many sheets as needed and note the number of pages at the bottom. Please write legibly.

NAME (PRINTED)	STREET ADDRESS	EMAIL	SIGNATURE

Appendix D

Proposed Neighborhood Traffic Management Plan

City of Wauwatosa
Neighborhood Traffic Calming Committee Charter

Committee Name: _____

Neighborhood Area Represents: _____

Date: _____

Committee Goals:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Anticipated Activities to be Conducted by the Committee:

_____

_____

_____

_____

_____

_____

_____

_____

Appendix E

Neighborhood Traffic Management Program Ballot

City of Wauwatosa

Neighborhood Traffic Calming Program

CONFIDENTIAL BALLOT

Family or Business Name _____

Check One: Owner ___ Renter ___

Address _____

Phone Number _____

Email (optional) _____

Date _____

Individual ballots will remain confidential. Results of the ballots will be made public.

Description of measure being proposed (Drawing attached)

_____

_____

_____

Estimated cost per parcel for the improvement $_____

_____**We oppose the proposed traffic calming measure and/or do not want to pay for it.**

_____**We support the proposed traffic calming measure and are willing to pay for it.**

Signature:_____ **Date:**_____

Comments:

_____

_____

Return by _____**to:** City of Wauwatosa
Attn: William Wehrley, City Engineer
Engineering Services Division
7725 W. North Avenue
Wauwatosa, WI 53213

Appendix F

Typical Neighborhood Traffic Calming Device Construction Cost Estimates

Typical Traffic Calming Device Construction Costs Estimates

Device	Typical Cost
Speed Tables	$6,000 to $10,000
Traffic Circles	20,000 to $30,000
Gateway Treatments	$5,000 to $20,000
Bulbouts	$25,000
Diagonal Diverters	$100,000 and up
Full Closures	$120,000 and up

Appendix G

Photographs of Traffic Calming Devices

File #: 25-0915 **Agenda Date:** 6/3/2025 **Agenda #:** 2.

Discussion relative to Department of Public Works - Engineering Division reckless driving mitigation activities